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ABSTRACT

This booklet contains a collection of activities developed to use K through second grade students. All of the activities in this guide use an interdisciplinary approach and explore the human connection with all living things and their environment. Contents include: (1) "Sharing Space and Making Homes"; (2) "Sharing Resources and Feeling Connected"; (3) "Sharing Land, Water, and Energy"; and (4) "Sharing Responsibility." (MVL)

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SHARING A SMALL WORLD

Environmental Activities for Young Learners

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Acknowledgments

Project Editor: ***Pamela Wasserman***
Project Manager: ***Heather Zesiger***
Creative Team: ***Sarah Fairchild, Anne Roughton, Pamela Wasserman, Heather Zesiger***
Design and Typography: ***Lindsay Raue***, Raue & Associates, Alexandria, VA
Illustrator: ***Jessica Schiffman***, Jessica Schiffman Illustration, Idyllwild, CA

Special thanks to the following reviewers for their thoughtful suggestions:
Shannon Cline, Doctoral Student in Environmental Education, University of Florida, Gainesville, FL
Randall B. Colton, Third Grade Teacher, Weston Elementary, Schofield, WI
Inez A. Heath, Professor, Early Childhood and Reading Education, Valdosta State University, Valdosta, GA
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Sara Jenkins, CPT, Avondale Elementary, Avondale, AZ
Sheila B. Jones, Environmental Education Specialist, Wake Soil and Water Conservation District, Raleigh, NC
Hope Longwell-Grice, Assistant Professor, University of Louisville, Louisville, KY
Jennifer D. Jobe, Teacher, Hurst-Euless-Bedford ISD, Euless, TX
Colleen L. Kulesza, Conservation Education Coordinator, Max McGraw Wildlife Foundation, Dundee, IL
Gene Kutscher, District Science Chairman, Roslyn Public Schools, Roslyn, NY
Jacqueline Munyer, Assistant Professor, Slippery Rock University, Slippery Rock, PA
Kathy O'Neal, Teacher, Oak Grove Elementary, Oak Grove, LA
Darcl Sanders, Director of Education, Lake Erie Nature and Science Center, Bay Village, OH
Donna Sharr, Environmental Education Specialist, Douglas Hart Nature Center, Mattoon, IL
Nicole Simmons, Teacher, Brookline, MA
Angela Smith, Director, Douglas Hart Nature Center, Mattoon, IL
Mary Wilkening, First Grade Teacher, Avondale Elementary, Avondale, AZ

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Since 1975, the Teachers' Population Education Training (PET) Project has provided training, teaching materials, and assistance to tens of thousands of educators throughout the United States and around the world. In response to the many requests we have received for activities appropriate for use with children ages 4–7, we have created Sharing a Small World *as an introduction to the themes found in our other educational resources. For information on our other materials and resources for older students, visit our website at www.populationeducation.org or call 1-800-767-1956 to receive our catalog.*

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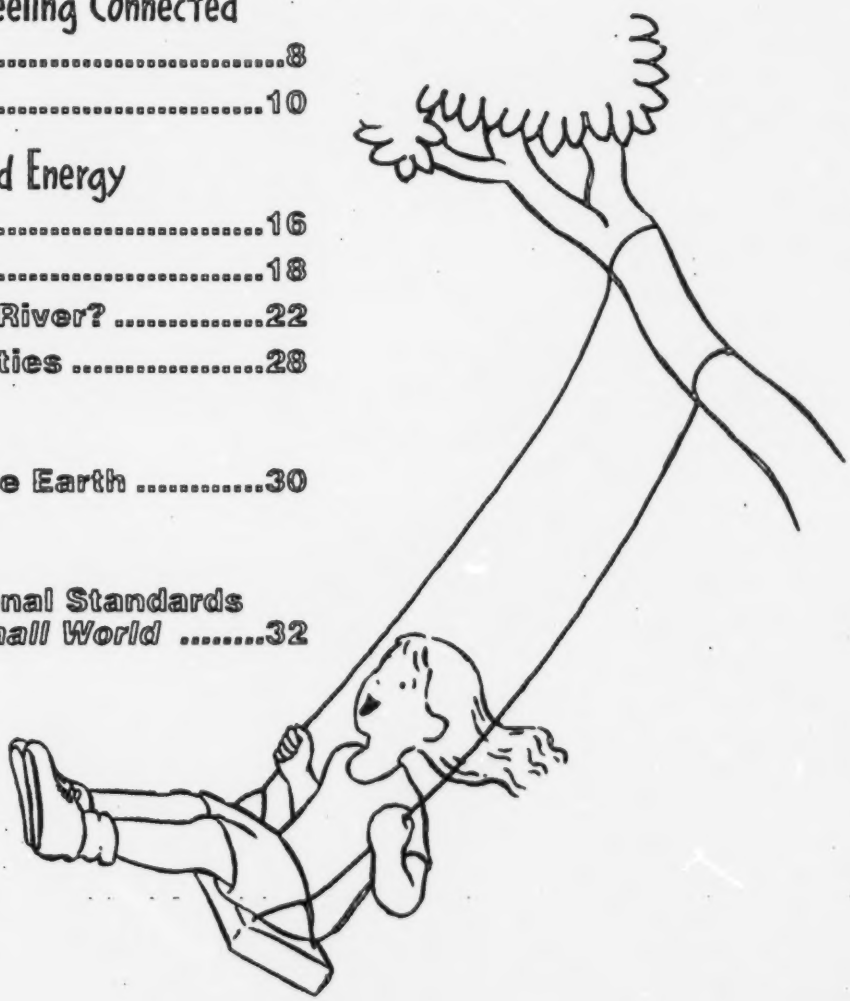

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Teacher's Guide

Welcome to *Sharing a Small World*, a collection of activities that helps very young learners (Pre-K–grade 2) explore their connection to other people, all living things, and the environment.

Population dynamics, resource use, and human impact on the environment may seem like issues that are too complex for the Pre-K and early elementary classroom. Yet, there are ways that even very young students may be helped to understand these concepts by drawing on personal experiences and by interacting with each other under the guidance of their teachers and parents. *Sharing a Small World* strives to make these important issues come to life through hands-on activities that are innovative, informative and fun.

How to Use *Sharing a Small World*

Sharing a Small World is organized around concepts and can be used to present a series of integrated units. Begin by reading the introductory narrative aloud to the students. The activities are grouped thematically in the Table of Contents, offering a structured sequence of units that work in concert with each other. The final activity, "Lend a Hand to the Earth," provides a synthesis of the lessons in the previous activities, as students are encouraged to identify ways that they can care for the environment and each other. Alternatively, the activities may be used individually to fit your curriculum priorities and teaching style.

All the activities are interdisciplinary, especially combining science, social studies, and geography. Activity formats include games, simulations, role-playing, and art projects. Each of the nine activities clearly outlines the national subject area standards addressed by the activity, student objectives, skills used, materials needed, activity procedures, and discussion questions. Many include ideas for further exploration and extension as well as vocabulary words to review before and during the activity.

No one knows your students better than you do and we encourage you to adapt these activities to best fit your classroom. For instance, you may wish to use our suggested grade level simply as a guide, substitute props based on what is readily available, or use examples of local natural sites to make the environmental connections most relevant. These activities are meant to be dynamic and we would love to hear how *you* have used them with students.

Sharing a Small World is also appropriate for use in homeschooling and in non-formal education environments that serve young people and their families: (e.g., nature centers and zoos).

Meeting the National Standards with *Sharing a Small World*

The hands-on activities in *Sharing a Small World* are designed to help educators implement current methodology in the classroom and other learning environments. These activities integrate several instructional methods:

- developmental learning strategies;
- an integrated thematic instructional model;
- teaching to multiple intelligences;
- cooperative learning;
- a constructivist approach;
- and small and large group activities.

In addition to providing enrichment that fits the overall goals and objectives of what young people should be learning, the activities in this kit fulfill several national teaching standards. To assist educators in matching the activities to the appropriate state standards, the relevant national standards are cited within the sidebar of each activity and described in further detail on page 32.

We hope you and your students enjoy using *Sharing a Small World* and that it stimulates further development of an environmental awareness and appreciation for the interrelationships between people and the planet.

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Introductory Narrative

[NOTE: This narrative was designed to be read by the teacher to the students as an introduction to the themes and concepts that appear in the activities that follow.]

You may have heard people call our planet and the natural world around us *Mother Nature*. Have you ever wondered why? Many people call nature "mother" because the natural world gives people everything we need to live, just as parents give many necessary things to their kids. From nature we get air to breathe, water to drink, soil to grow crops for food, fabric for our clothes, and materials to build houses to live in. The natural world is also home to all the plants and animals that share our environment and enrich our lives.

Just as nature takes care of us, we must take care of our planet so it can go on giving us everything we need to live healthy and happy lives. You might wonder what we can do to help care for a whole planet. Taking care of the planet is not so different from taking care of ourselves.

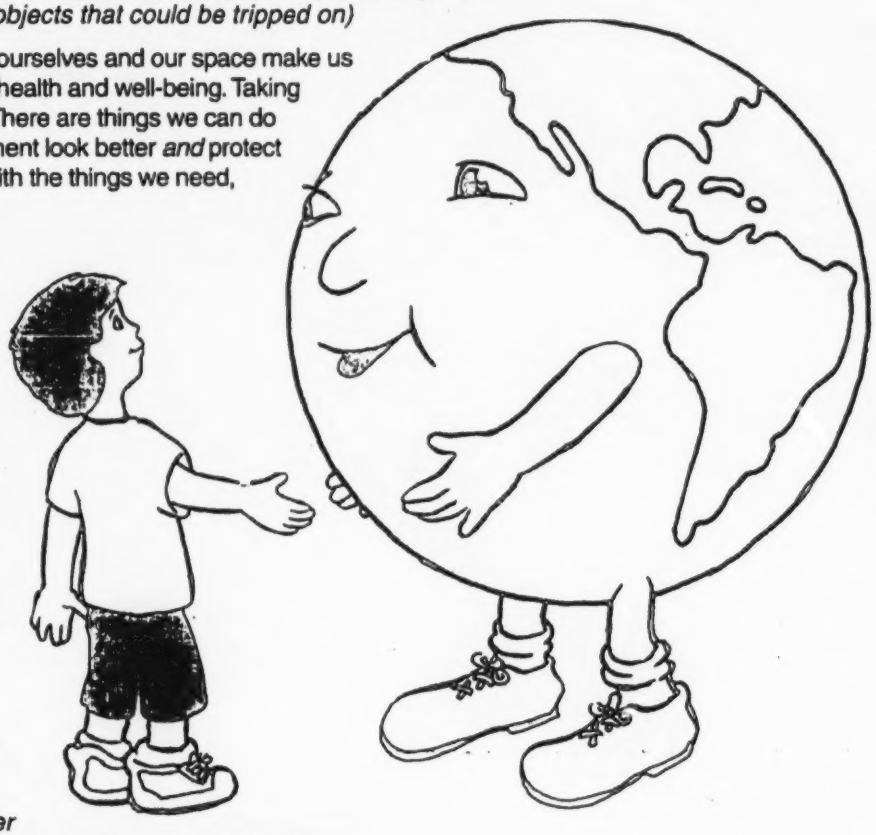
What are some things you do each day to take care of your body?

*(**Possible answers:** brush teeth, wash hands and face, dress appropriately for the weather, comb hair, eat healthy foods, get enough rest, exercise, spend time with friends and family)*

What are some things you do each day to take care of the space around you (e.g., your room at home, your classroom at school)?

*(**Possible answers:** pick up toys and put them away, pick up and dispose of trash, clean up spills, move objects that could be tripped on)*

The things we do to take care of ourselves and our space make us look nice. They also improve our health and well-being. Taking care of the Earth is very similar. There are things we can do each day that make our environment look better *and* protect the Earth's ability to provide us with the things we need, now and in the future.



For example, while washing our hands and faces and brushing our teeth, it is important not to waste water. Clean water is limited, yet all people, plants and animals need water to live. So, when using water in the sink, be sure to turn it off when it isn't absolutely necessary. Also, be sure to ask a grown-up to help fix a leaky faucet. These simple actions will benefit all of us in the future.

Can you think of other ways you can be a caretaker of the Earth?

[Answers will vary. This is a good question to ask again after you have done some of the activities in Sharing a Small World. *See the activity "Lend a Hand to the Earth" for additional ideas.]*

In big ways and small ways, we can each do something to lend a hand to Mother Nature.

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Crowding Can Be Seedy

Objectives:

The student will be able to:
- Describe two effects of crowding on the growth of living things.
- Name two resources plants need to grow well.

Grade Level:

Pre-K–2

Standards:

- Math I
- Science C, F

Skills:

- Observing
- Collecting and analyzing data
- Basic gardening
- Understanding cause & effect
- Doubling numbers
- Role playing
- Simulating

Duration:

Preparation
Part 1—5 minutes
Part 2—15 minutes
Activity
Part 1—30 minutes
Part 2—30 minutes initially; then seeds grow for about one week

Materials:

Part 1
- Yarn or tape to show borders of a 5' x 5' (1.5 m x 1.5 m) area in the classroom

Part 2
- Package of radish seeds (or other fast-germinating seeds)
- Potting soil (or other planting medium) and sunlight
- Scissors
- Half-pint milk cartons, rinsed (one per student)
- Water-catch basins (plastic lids, aluminum pans, etc.)
- Labels

Overview:

Different plants and animals need different amounts of space to grow well and be healthy. In this activity, students will first simulate seeds sprouting together in a crowded pot and then plant real seeds in a gardening lab to determine how space makes a difference in their growth.

PART 1: The Sprouts Game

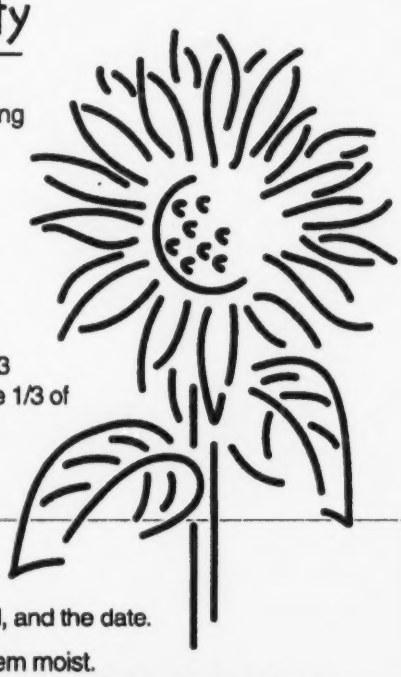
Procedure:

1. Mark off a 5' x 5' (1.5 m x 1.5 m) area.
2. Ask someone to assume the role of a seed. The seed is "planted" inside the square and remains dormant. (Person should be sitting with head tucked.) You can use the following rhyme to signal the seed to start "growing":

   The sun shines,
   the wind blows,
   the rain falls and
   the little seed grows!

   Given a signal to sprout, the seed slowly becomes active and finally becomes a mature plant, standing and slowly waving its stem and branches (using arms and upper body).
3. Now plant more and more seeds (students) in the same area and (try to) repeat the growth process each time.

PART 2: Gardening Activity



1. Make planting pots by cutting off the tops of empty, rinsed milk cartons and using the bottoms.
2. Punch a few holes in the bottom of the cartons for drainage.
3. Fill the pots with potting soil to about 1/4" below the rim.
4. Distribute the seeds as follows: Give 1/3 of the class (Group 1) one seed each; give 1/3 of the class (Group 2) two seeds each; give 1/3 of the class (Group 3) six to ten seeds each.
5. Plant seeds at the depth recommended on the seed package. Each student should plant all of his or her seeds in a single hole in the middle of the carton. Students should label their cartons with their names, the number of seeds planted, and the date.
6. Set the pots in a lighted spot and keep them moist. Seeds should germinate in about one week. Maintain the plants during the growth period and make notes on growth observed in each group.

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7. Harvest the radishes when foliage appears thick and mature. Compare size.

Discussion Questions:

1. What happened to some of the seeds?

2. How did you feel if you did not have enough room to sprout and grow?

3. Think of your own home, and the people you share it with. What would it be like if there were two or three times as many of you living there? What things might there be too much or not enough of? ***(Possible answers:*** *too much noise, trash; not enough beds, food, hot water, space, privacy, quiet, etc.)* How do you think you and the people you live with would like that?

4. Which student grew the largest radish? The smallest?

5. Which group grew the largest, most healthy-looking radishes? Why?

This activity first appeared in Counting on People: Elementary Population and Environmental Activities, *ZPG, 1994.*

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Creatures in Motion

Objectives:

The student will be able to:
- Name two activities that are easier to do with many people.
- Identify two activities that work better with fewer people.
- Work cooperatively in a small group.

Grade Level:

Part 1: K–2
Part 2: 1–2

Standards:

- Math I, IV
- Science C
- Social Studies V-e; VI-a; IX-b

Skills:

- Following instructions
- Cooperating
- Organizing
- Critical thinking
- Problem solving as a group
- Simulating
- Role playing
- Brainstorming
- Imaging

Duration:

Preparation
Part 1–none
Part 2–none
Activity
Part 1–15 minutes
Part 2–25 minutes

Materials:

- Image of millipede (provided)
- Clock or wrist watch with a second hand
- Whistle
- Optional—measuring tape

Overview:

When working as a group, cooperation may be necessary to achieve common goals. Some activities work better with just a few people, while others work better with lots of people. In the first part of this activity, students participate in a physical but noncompetitive game in which they demonstrate the problem-solving and cooperative skills needed to work in large groups. In the second part of this activity, students will demonstrate coordination as a team in creating a four-person "creature" that can move together as a unit.

PART I: Millipede Stampede

Procedure:

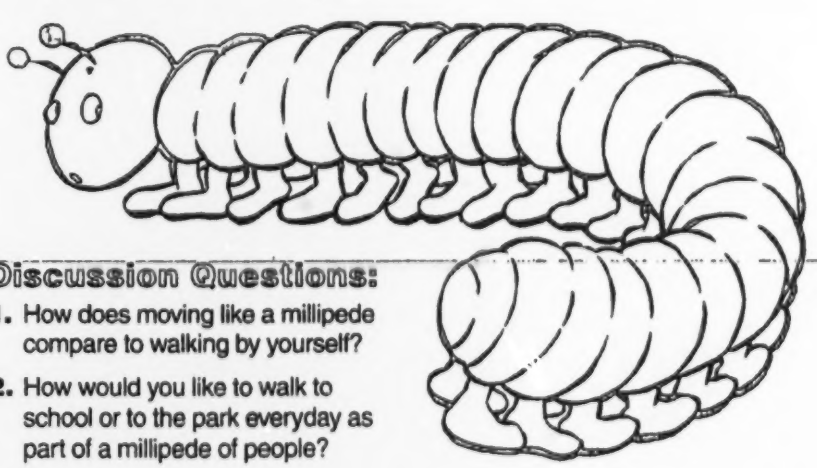
The challenge of this activity is for the group to move like a millipede for a few moments. This will take both cooperation and coordination from every student. Begin by asking the class if they know what a millipede is (a description follows and an image is provided).

1. Direct the students to form a line. (The longer the line, the more fun and challenging the activity.) Each person in the line should put his/her hands on the shoulders of the person in front of him/her, keeping arms straight, so each student is one arm's length apart. Everyone becomes part of the millipede. The leader of the group will be the head of the millipede.

   "A millipede is a long bug-like creature with lots of legs, sometimes as many as 100! All those legs have to move the same way at the same time. We're going to try and do that together to find out what it is like to work together in this way."

2. Explain that at your signal, the millipede should begin to walk as instructed by the first person in the line (the head of the millipede). The segments (children) should remain one arm's length apart, and no more. If any segment separates, the rhythm, and the millipede, will be broken.

3. Give the signal for the millipede to start walking. One to three minutes of the activity should be enough to demonstrate the millipede's ability to work together.



Discussion Questions:

1. How does moving like a millipede compare to walking by yourself?
2. How would you like to walk to school or to the park everyday as part of a millipede of people?

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3. Imagine if your whole school had to move together like that. Would it be hard to do with that many people?

4. When are some things easier, or maybe even only possible if you have a small group of people? What activities are more appropriate for a large group of people? [In advance, think about population density and how it relates to young students' lives at home and at school. Feel free to add other examples to the following list. Use the list to stimulate group discussion.]

a. Grocery shopping
b. Standing in the lunch line
c. Swimming in the pool
d. Working in class
e. Riding the bus
f. Eating a snack
g. Napping
h. Playing tug-of-war
i. Celebrating at birthday parties
j. Watching a parade (or marching in a parade)
k. Playing at the playground

PART 2: Create-a-Creature

Procedure:

1. Divide the class into teams of four students each.

2. Inform the teams that each group will become a single, moving creature of its own creation. The movement of the creature will only work if everyone is cooperating and working together. Each member of the group must be in contact with the person next to him or her, and all four students must move together so that all parts of the creature function as one unit. Students must decide how their creature will move (e.g., hopping like a frog or wiggling like a snake). Students can name their creatures, describe where they live, and what they eat.

3. Allow 10-15 minutes for each team to create its creature. During the brainstorming period, each group will test its creature's ability to move a pre-determined distance (a few feet or the length of a hallway, for example) successfully.

4. Finally, each group will present its creature to the class and demonstrate how it moves.

Discussion Questions:

1. What problems did you have walking as a team?

2. Why did the creatures have to move together in the same motion and at the same time?

3. Was it hard to do exactly what the person next to you or in front of you was doing? Why? Did you choose a leader?

4. When else do groups of people need to cooperate? [Relate question to the larger concept that doing anything as a group requires teamwork.]

5. What insects or animals have to move and work together to survive? ***(Possible answers:** ants, bees)*

This activity is based on "Popumonsters" in Counting on People: Elementary Population and Environmental Activities, *ZPG, 1994.*

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Go Fish!

Objectives:

The student will be able to:
- List three resources that may be shared.
- Identify three ways to promote sharing.

Grade Level:

Pre-K–2

Standards:

- Math I
- Science F
- Social Studies IX-b, e

Skills:

- Sharing
- Describing
- Number-sense and counting
- Critical thinking
- Cause and effect
- Dividing
- Observing
- Prioritizing

Duration:

Preparation—30 minutes
Activity—30 minutes

Vocabulary:

Resource—A resource is a supply or source of support.
Share—To share is to divide and distribute something among others.

Materials:

- Goldfish (shaped) crackers—Enough to pass a bowl of crackers around to all the students and enough to fill a small plastic baggie (or other standardized measure) with equal numbers of crackers for each student. (About 300 total crackers per 15 students; e.g., a bowl of 150 crackers and 10 crackers in a pre-portioned baggie for each of 15 students.)
- Napkins—one per student
- Plastic baggies (snack size)—one per student
- Serving bowl
- Chalkboard or other writing surface

NOTE: Instead of crackers you could use other objects that the students would want and which could be manipulated in a similar way.

Overview:

The world's natural resources are limited. Future survival in an interconnected, global society will require sharing and compromise between individuals and among nations. In this activity, students share a bowl of goldfish crackers to simulate even and uneven consumption of limited resources. Since sharing and cooperation are already common themes in the early elementary classroom, this activity can reinforce positive interpersonal behaviors and demonstrate the need to think of others when consuming limited resources.

Procedure:

1. Be sure you and the students wash your hands before the start of this activity.
2. Seat the students at tables, with a napkin placed in front of each child. Tell the students that you will be passing a bowl of goldfish crackers around and that they each may take as many goldfish as they want when the bowl comes to them. They should place them on their napkin, but they *may not eat* these particular crackers in this round. Hand the bowl to the first student and let the students pass it around, or facilitate passing it as necessary. Ask the students to count how many crackers they took. Keep a list of each child's cracker total on the board and note whether the crackers make it all the way around, or if the first few students take large handfuls, leaving little or nothing for the rest of the class.
3. Remind the students that they are not to eat these goldfish. Pass the bowl around again and ask them to put the crackers back in the bowl (save these for snack time or use in craft projects later).
4. Assure the students that they are all about to get an *equal share* of goldfish (this reassurance will be important for those who didn't get very many crackers in the first round).
5. Distribute equal size portions of crackers (that you have already divided into the plastic bags) to each child. How do these portions compare to the ones the students took for themselves in the first round? Point out that the total number of crackers in each round was the same—what differed was how many crackers each child took in the first round. Ask them to count the goldfish in the bag and record these numbers on the chalkboard below each child's total from the first round. Compare the two numbers for each child.
6. Tell the students that now they can eat the crackers.
7. Wrap up the activity by noting that:

"We used crackers sha d like fish to play this gai People all over the w depend on real fish for food. Food is a resource that we all share. The eans of the world are like a giant goldfish bowl and we all need to sh so everyone gets some. Sharing fish is an example of sharing a r ıral resource."

Discussion Questions:

1. Who was happy with the amount of crackers she/he received in the first round? Who was happy with what she/he received in the second round? How did it feel to be one of the students in the first round who got a small amount of crackers or who didn't get any crackers at all?

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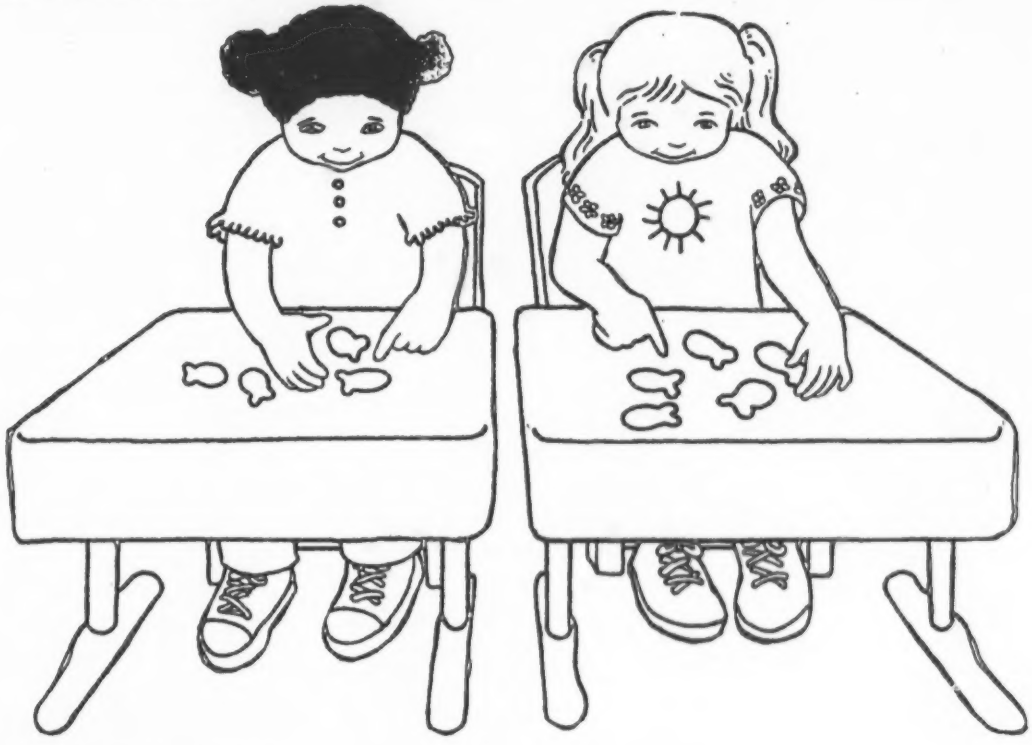
2. If you did take a large amount in the first round, how did it feel to get a smaller amount from the teacher in the second round?

3. In this activity we discovered that in order to share fairly, we might have to take a specific amount so that everyone else gets some too. We shared the crackers. What are some other things that you like to share? What are some things that you don't like to share? *(Answers will vary.)*

4. Are there items in the classroom that everyone needs to share? What are some things you and your classmates could do to make sure everyone gets a fair share of those resources in your classroom? ***(Possible answers:** share often, rotate use of certain materials, use a sign-in system for borrowing resources)*

5. What are some things you share at home? ***(Possible answers:** room, food, toys, time with parents or other caretakers)*

6. What are some things we share within our community? [You can refer to the activity "Our Town" if the students have trouble thinking of a reply.] ***(Possible answers:** streets, parks, libraries, water supply, hospital, fire department, schools)*



Bonus Questions:

1. What would happen if there were *twice as many* students in your class and you did this activity again with the *same number of crackers* divided evenly among the bags? ***(Answer:** The amount in each bag would be half as large.)*

2. What if there were only *half* as many students in your class when you did this activity again? ***(Answer:** The amount in each bag would be twice as big.)*

Exploration and Extension

1. Help students keep a list for the rest of the week of things that may be shared in the classroom or at home: How did it work out? How did it feel?

2. Ask the students to develop a list of rules for sharing resources in the classroom. Would these rules work at home? Would they work for a whole town? How might the rules need to change depending on the number of people involved?

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Web of Life

Objectives:

The student will be able to:
- Name two relationships between living things in a forest.
- Identify two things people can do to help keep forests and forest creatures healthy.

Grade Level:

Pre-K–2

Standards:

- English/Language Arts 1
- Geography V-14
- Science C, F
- Social Studies III-h

Skills:

- Drawing connections
- Explaining cause-and-effect relationships
- Group cooperation
- Listening
- Observing
- Role playing
- Imagining

Duration:

Preparation
If students create their picture/nametags themselves, prep will probably take about 30 minutes. If the teacher makes them from the images provided, it will probably take him or her 15–20 minutes.

Activity
15–20 minutes

[NOTE: This activity could be a mini-unit over three sessions: e.g., students can draw images for the web in the first session, listen to the narrative and create the web in another, and finally use the images to make a collage of the web for the classroom in the third.]

Materials:

- Ball of yarn or string
- Large index cards to serve as nametags for each character
- Drawing paper and crayons OR magazines OR the images provided
- Tape or glue
- Scissors
- Markers or crayons

Overview:

The Earth is composed of both natural and human-built environments. All these environments or communities are made up of a web of relationships between people, resources, and other living things. In this activity, students will see what can happen to the whole web when one part is altered. Through role-play, students will draw connections and explain the cause-and-effect relationship between actions of people and animals, and the balance of a specific environment.

Procedure:

1. Preparation:

Pictures of the creatures and the other items in the story below can be drawn and colored in by the students themselves, or found in magazines (such as *National Geographic*, *Ranger Rick*, or *Audubon*). The images provided may also be used. Whatever your source of pictures, each one should be pasted onto a card, leaving room for the creature or item's name to be written in below the image. Younger students can practice these words, while first or second graders may already be familiar with this vocabulary.

Members of the Forest Community

a. Sun	d. Air	g. Soil	j. Bee*	m. Fox*
b. Trees*	e. Bird*	h. Ant*	k. Plant*	n. People*
c. Water	f. Worm*	i. Flower	l. Rabbit*	

*[NOTE: An * indicates characters should double up if the class size exceeds 14 students. When more than one student plays a given role, the two students should sit together in the circle.]*

2. Each student assumes the role of one member of the forest community listed above. The corresponding pictures will serve as the nametag for characters in the story and should be hung around their necks with yarn, or taped to their shirts.

3. The students will sit on the floor in a circle in random order. The teacher will stand, holding the ball of yarn or string, and narrate the story, passing the ball to each student when his/her character's name appears in bold capital letters in the script. The yarn is only passed to each student once, when his/her character's name is first mentioned.

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4. The students remain seated on the floor throughout the story. They will grasp the yarn when it comes to them, keeping their hands close to the floor so the yarn will lie flat inside the circle. This will allow the teacher to walk over the yarn as s/he passes the ball from child to child, and the crisscrossing yarn inside the circle gradually forms the web.
5. Only when the web is completed will the students stand up, lifting their part of the yarn so the whole group can see the web at work.

Instructions to the Students:

"Imagine that you're no longer in the classroom, but outside in the sunshine, surrounded by the smells and sounds of a forest. Imagine that you are becoming the part of the forest pictured on your nametag.

I'm going to read a story about this forest, which shows how important each member of the forest is to all the other members. As I tell about your part of the forest, I will pass a ball of yarn to you. Take hold of the yarn, then give the ball back to me so I can pass it to the next person.

Don't let go of your part of the yarn, but hold it down on the floor so I can walk around inside the circle and pass the yarn to the next person."

Interactive Story: Web of Life

Our forest community grows healthy and strong with the light of the **SUN**.

[Hand the ball to the child who is the sun.]

All of the creatures in the forest depend on this energy. It keeps them all warm, and helps the plants to grow. The tall, beautiful **TREES** that stretch from the ground to the sky look to the sun to give them strength. *[With older students, explain the complementary nature of people inhaling oxygen and exhaling carbon dioxide, and plants taking in carbon dioxide and giving off oxygen.]*

[Pass the ball from the sun to the tree/s.]

Rain has just stopped falling in the forest and has given every thirsty thing a big drink of **WATER**. The air is cool from the afternoon rain. This **AIR** is what the forest breathes. Take a deep breath. We all need the sun, water and air.

The forest is full of life. A colorful **BIRD** sings from the branches of one of the trees and looks around on the ground below for food. It spots a **WORM** moving around on the forest floor that will make a perfect lunch.

[Pass the yarn from the bird to the worm. The web is beginning to take shape.]

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The worm crawls down into the dirt and eats the leaves that have fallen from the trees. Thanks to this working worm, the **SOIL** of the forest is clean and good for plants to grow in. An **ANT** has made its home in the soil and also in the bark of the tree.

[For older students, explain how the worm, ants, and other insects are part of the process of decomposition. They are small, but very important parts of the forest community.]

A **FLOWER** has sprouted from its seed in the ground and waves its petals in the wind. Its roots find food in the soil. This flower has been waiting for the busy **BEE** to buzz by and leave the pollen that helps it make the seeds for next year's flowers. *[With older students, elaborate on the concept of pollination and explain that the flowers depend on the bee for this process.]*

The roots of this flower and the plants on the forest floor dig deep into the soil of the earth. One **PLANT** is getting warm from rays of sunlight coming through the trees. The raindrops have dried on its leaves. This healthy plant is food for the **RABBIT** who hops by, ready to take a bite of its green leaves. A **FOX** watches the fuzzy rabbit from behind a log, keeping an eye on its food for the day.

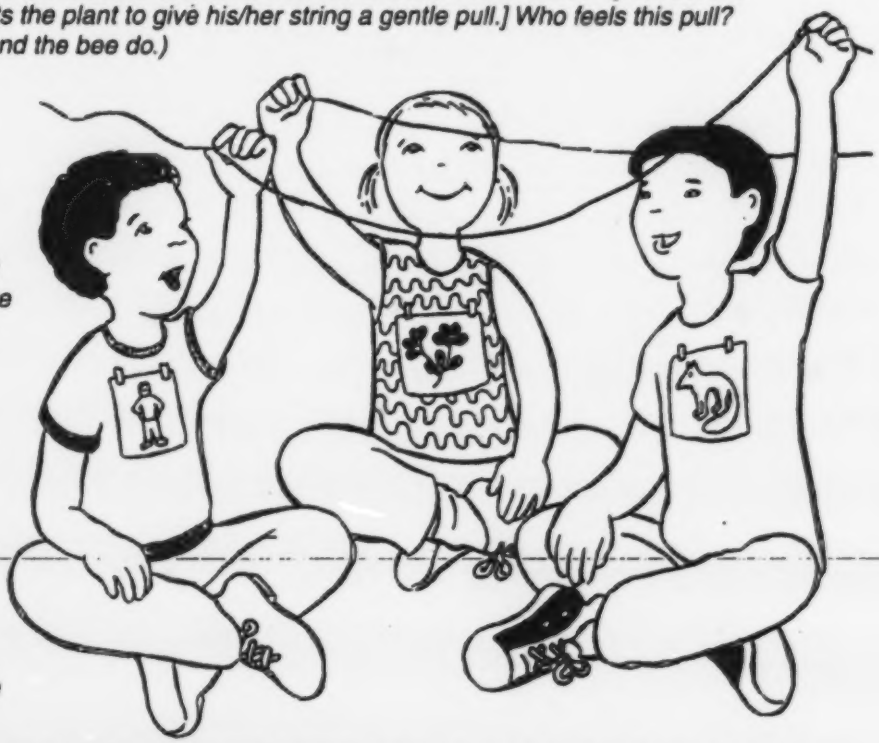
Suddenly, the fox hears a loud sound, and runs off to hide behind the trees. Two **PEOPLE** are walking through the forest. They are picking plants and flowers as they walk. They are happy to be in the woods where the air is cool and the animals play. From way up in the branches of the tree, the bluebird sings its welcome song. They stop for a moment to enjoy this special place, and then they walk on.

[Each child in the circle is now holding part of the yarn, ending with the two people who have entered into the forest community. Ask the class to stand up, being careful not to let go of their part of the yarn. They should continue to stand in the circle through discussion question 5, below.]

Discussion Questions:

1. Look how the web has grown and how many of the strings overlap. Think about the importance of the relationships within the forest. For example, what effect did the people walking through the woods have on the web? (***Answer:*** *They picked flowers and plants.)*
If the plants are taken from the forest, which other creatures will be affected? *[Instruct the student who represents the plant to give his/her string a gentle pull.]* Who feels this pull? (***Answer:*** *The rabbit and the bee do.)*

2. If plants become scarce, where will the rabbit get its food? (***Answer:*** *If the rabbit cannot find enough food here then it might have to leave this forest to find food.) [Emphasize the concept that everything is connected to and needs everything else. Instruct the student who represents the rabbit to give the next pull.]*
Who feels this pull? (***Answer:*** *The fox is the one who feels the effects if the rabbit is not part of the community.)*



[The students continue to pull their strings as the questions are being asked. At times, the teacher may need to cue the students regarding what parts of the forest are affected.]

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3. What happens if a tree falls or is cut down in the forest? Who will feel a pull? Is the tree anyone's home? *(**Answer:** The bird and worm feel the pull from the tree.)* Why are these members of the forest important to the rest? *(**Answer:** The worm eats the leaves that fall from the tree and makes healthy soil.)* Who needs healthy soil? *(**Answer:** Plants, flowers, trees, the rabbit, and the fox do.) [These students can all pull their strings.]*

4. What would happen if it didn't rain in the forest for many weeks? What creatures would this affect? *(**Answer:** All of the animals, trees, and plants need water, just like we do.) [The student who is "water" can pull on his or her string. All the other parts of the forest can pull their strings as well.]*

5. What would happen if we drove cars or a school bus near to the woods to go on a field trip? Would this be good or bad for the air that the entire forest breathes? *[The student who is air can pull his/her string. Point out that this affects all of the forest community and the people too!]*

[The following questions can lead to a discussion after a break, when the students are sitting down again.]

6. What would happen if our entire classroom took a field trip to this forest and decided to have a picnic? *(**Possible answer:** We would create a lot of trash.)* If we left our garbage would this hurt the forest community? *(**Possible answer:** Animals might try to eat plastic or other things they shouldn't eat and get sick.) [This question focuses on human impact on the forest. The greater number of people, the greater the impact.]*

7. What can we do to protect our forest? (***Possible answers:** Put garbage in trashcans, don't pick wildflowers and plants, plant trees). [Introduce the concept of stewardship—that people can be protectors of the forest community. The idea is not to discourage kids from visiting the forest, but rather to instill the importance of being respectful and understanding how our actions can affect other living things.]*

Exploration/Extended Learning:

1. Students can recreate the web in the form of a collage by mounting their nametags on poster-board, and showing connections by either drawing lines and arrows or gluing yarn between the items pictured.

2. Facilitate a similar story about a different sort of setting, particularly any that would be more familiar to the students (e.g., prairie, desert, coastal/beach, underwater marine or freshwater, etc.).

3. Students can make eco-accessories (such as bracelets or key rings) from yarn or string and beads, which could symbolize the categories of elements from the story: Yellow = Sun, Green = Plants, Clear/White = Air, Brown = Soil, Blue = Water, Red = People & Animals.

The web of life is a common theme in environmental education. Variations of this activity can be found in Sharing Nature With Children *by Joseph Cornell, (Dawn Publications, 1979).*

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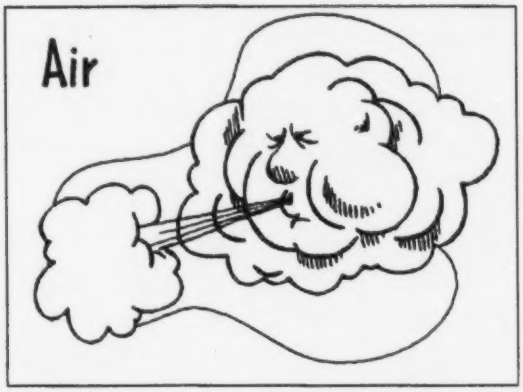

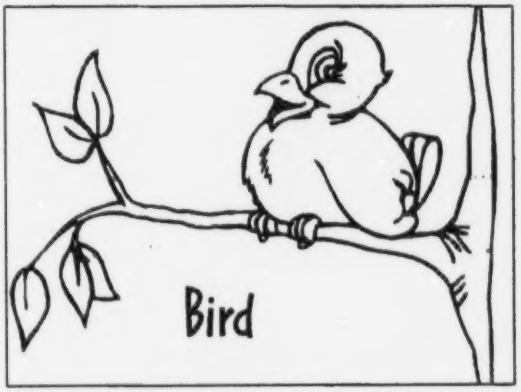

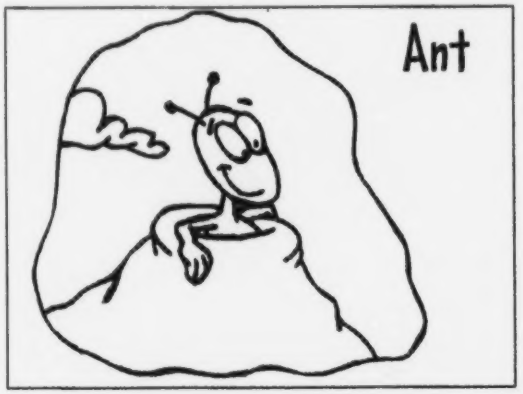

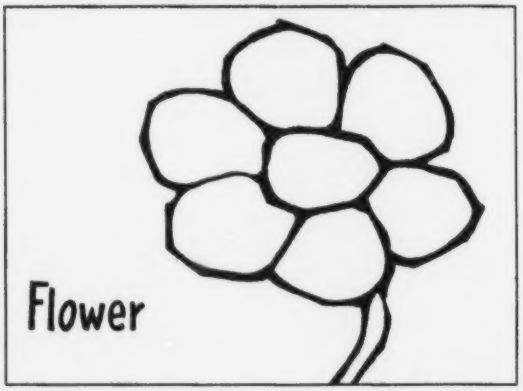

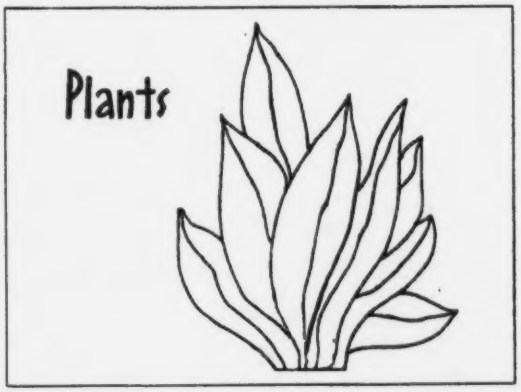

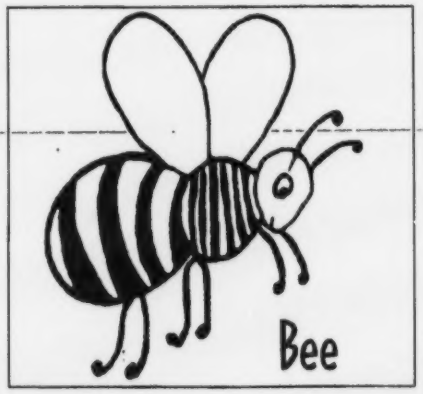

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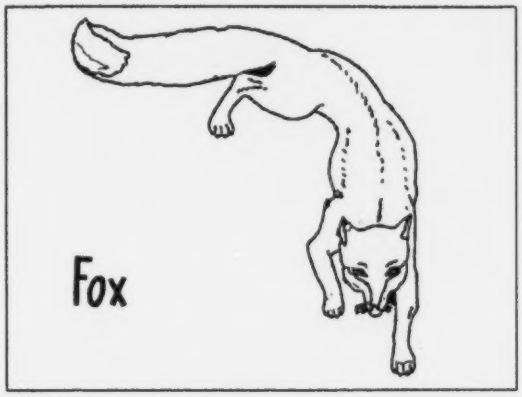

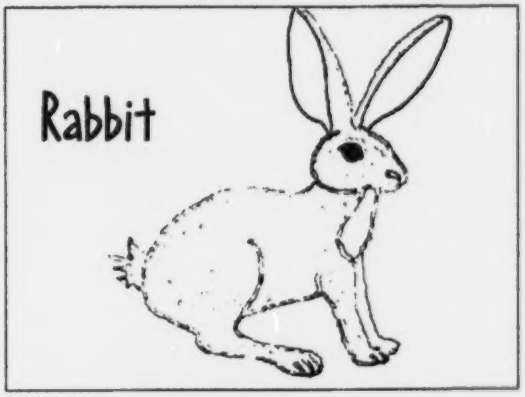

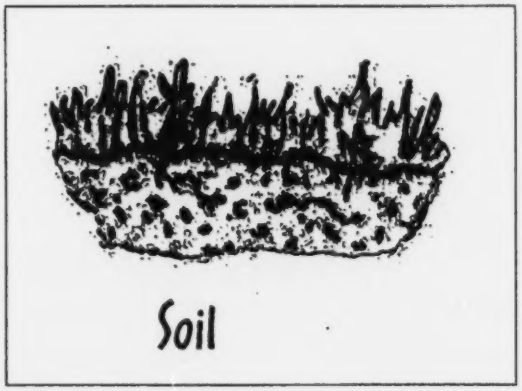

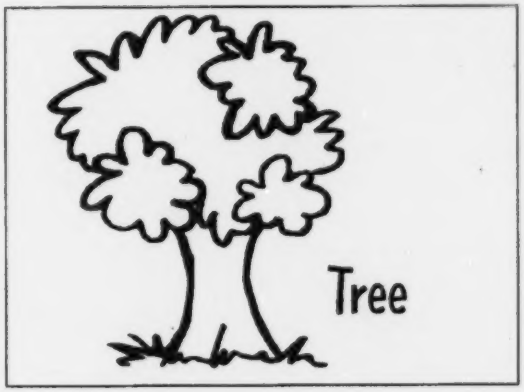

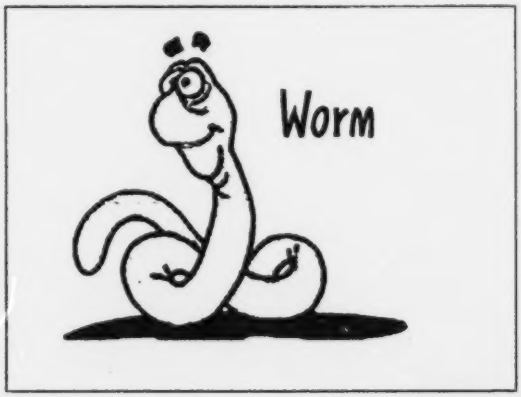

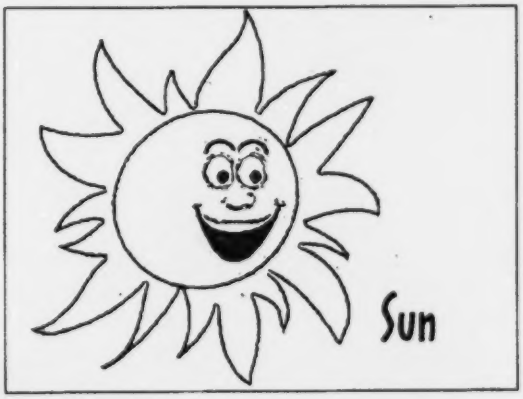

Rain/Water

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Earth Cookie

Objectives:

- Describe which makes up more of the Earth's surface, land, or water?
- List three food products that come from farms.
- Name two things that people can do to preserve farmland/soil.

Grade Level:

Pre-K–2

Standards:

- Geography III-8; V-14, 15, 16
- Social Studies III-h, k; IX-d, e
- Science F
- Math I; IV

Skills:

- Observing
- Dividing
- Imagining
- Simulating
- Classifying and categorizing
- Ordering and arranging
- Representing

Duration:

Preparation—30–60 minutes depending on materials used

Activity—30 minutes

Materials:

- A large, pizza-sized sugar cookie (bake at home or purchase in advance)
- An assortment of cookie toppings: raisins, dried fruit, sliced berries, miniature marshmallows, small candies and sugar sprinkles, etc.
- Icing or cream cheese
- Food coloring in assorted colors
- A globe or map of the world (As an alternative you can use a beach ball or small pillow decorated as a globe)
- A plastic knife
- A round baking pan (e.g., pizza pan)

NOTE: If you would rather not use real food products, you could use modeling clay to make the cookie instead.

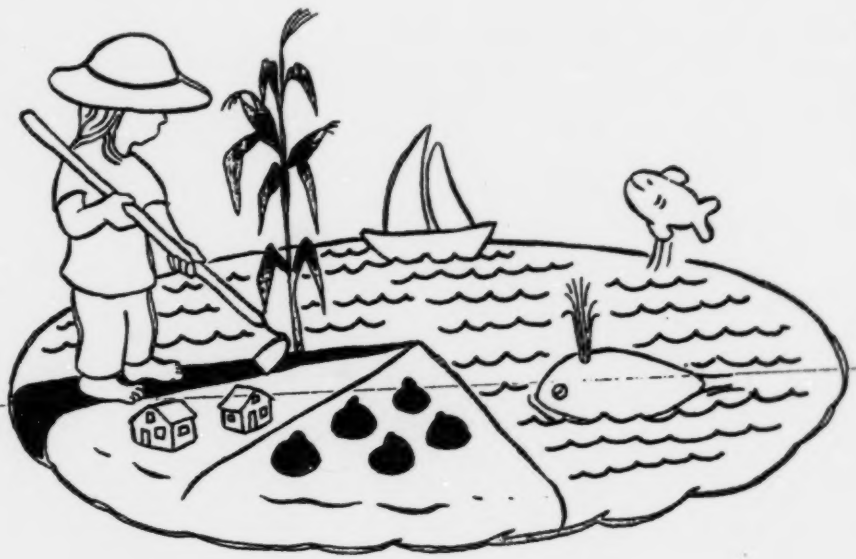
Overview:

Only a small part of the Earth's land is available to grow crops to feed the world's people. Personal decisions and actions can help conserve farmland. In this activity, students will help decorate a cookie that represents the basic geographic portions of the Earth and develop an appreciation for the limited amount of farmland available on the planet.

Procedure:

1. Be sure you and the students wash your hands before this activity.
2. Introduce the concept of the activity and show the students the large, plain cookie.

   "Today we are going to decorate a special cookie. Let's pretend that this big, round cookie represents the whole Earth. This cookie will show us how much land is available to grow food for all the world's people."
3. Cut the cookie into quarters.
4. Explain that most of the Earth is water. Point to 3/4 of the cookie and ask a group of students to add blue-colored icing to that part of the cookie to represent the world's water. Ask the students to name some things that live in the water. Then they can add colored candies or fruits (or goldfish crackers!) to represent the living things that are in the oceans, lakes and rivers.
5. The remaining 1/4 of the cookie represents the Earth's land. Cut that section in half (you'll have two 1/8 pieces). Explain to the class that you are going to pretend that these two pieces of the cookie represent the land on the Earth.
6. Ask a different group of students to add marshmallows or white icing to 1/8 of the cookie. Explain to them that this section represents areas of the Earth where people can't normally live, such as very icy regions, deserts, and very high and rocky mountains.



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7. Take a moment to show the globe to the students and identify examples of the following types of regions: areas that are able to grow crops (farmland); areas that are densely populated, where there isn't much space to grow food (cities, coasts); areas with moderate climates where people can live; and areas where people can't live (deserts, high mountains, swamps, icy regions).

8. Carefully cut the remaining 1/8 section of the cookie into four small pieces (4/32). Ask the students to spread icing and assorted toppings in a variety of colors on three of these pieces (3/32). Explain that these three pieces represent all the areas where people live: where we build our homes, roads, schools, shopping malls, factories and cities. We also have to share this area with other living things—all the plants and animals that need homes too. Finally, ask the students to put green colored icing on the last uncovered piece (1/32). Explain that this little piece represents all the farmland on Earth—this proportion of area produces all the (land-based) food for the world's people.

9. Discuss ways to keep the sections of the Earth that we live and farm on clean and healthy. Suggestions include planting trees to prevent soil erosion; keeping the ground and water clear of pollution by disposing of chemicals properly; conserving energy to help reduce pollution that leads to acid rain; and buying produce from local farmers.

10. Cut the cookie in small pieces so that everyone may get a bit of it to eat.

Discussion Questions:

1. What are some foods you eat every day that come from the Earth? ***(Possible answers:** grains like rice, wheat for bread, and corn for cereal; apples and other fruits that grow on trees; carrots and other vegetables; spinach and other green leafy plants)*

2. Does all our food come from the land? ***(Answer:** no)* What do we eat that comes from the ocean? ***(Possible answers:** fish, clams, shrimp, shellfish)*

3. Were you surprised at what a small portion of our cookie represents farmland? Why or why not?

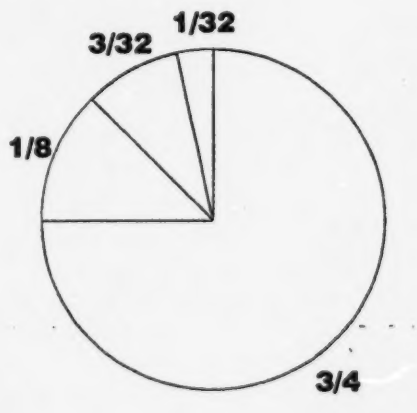
Exploration and Extension:

1. Help your students discover soil, an important part of gardens and farms. See *Under the Ground*, by Joan Westley, (Creative Publications, 1991), for ideas on how to introduce young learners to the plants and creatures that live in the soil and how they can protect soil from erosion. See also Part 2 of "Crowding Can Be Seedy" on page 4.

2. Arrange a class field trip to a local farm or dairy. The students can learn what foods come from the farm they are visiting. They can ask the farmer to discuss how his or her farm has changed over the years and to tell them more about conserving farmland.

Sample Diagram of Completed Cookie:

3/4	Oceans	
1/4	Land	
	1/8	Land where people can't live
	3/32	Land where people live but which can't support crops
	1/32	Land that can grow crops (and on which people can live)



This activity was adapted from "Enviro-Cookie," *published by the North Carolina Zoo, Education Division, 1-800-488-0444.* "Enviro-Cookie" *was based on* "Earth: The Apple of Our Eye," *published in* Counting on People: Elementary Population and Environmental Activities, *ZPG, 1994.*

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Our Town

Objectives:

The student will be able to:
- Identify three resources needed for survival.
- Describe five ways that people impact the environment in positive and negative ways.
- Distinguish between "needs" and "wants."

Grade Level:

Pre-K–2

Standards:

- Geography II-4
- Science F
- Social Studies III-h, k

Skills:

- Imagining
- Problem solving
- Brainstorming
- Critical thinking
- Observing
- Describing
- Using spatial sense
- Working in a cooperative group
- Drawing
- Simulating
- Role playing
- Organizing
- Ordering and arranging

Duration:

Preparation—If you have the supplies and accompanying literature resources available already in your classroom, preparation will be minimal.

Activity—This activity can be done as a mini-unit in three, one-hour increments. If done all at once, the activity will take a little under three hours.

Vocabulary:

Community—A community is an interacting group of diverse people in a common location.

Green Space—Green space refers to land that has not been developed (natural forests, grasslands, wetlands) or which has only minimally been developed (parks). It provides animals with habitat and protects plants and trees.

(Continued on next page)

Overview:

People and other living things live in habitats. They depend on the resources in their habitats for survival. In this activity, students discuss where people live and create model communities (human habitats). They will become familiar with the resources needed for human survival and develop an understanding of the human impact on the environment.

PART I: Brainstorm

Procedure:

1. *Optional*—To help students appreciate the range of resources and services that may be available in their neighborhoods, share with them a book like *Busy, Busy Town*. You can highlight environmental concepts as you read the book with your students. For example, as they learn about all the shops and services in *Busy, Busy Town*, you can ask about the kinds of resources used in each store. When sharing the section on the lumber yard and woodworkers, ask your students which of the products made from wood could be recycled or reused to reduce the need to cut down more trees in the future.

2. Introduce the concept of the activity:

   "Later we're going to design a community where we would like to live, but first let's discuss some of the things we need to have in our community."

3. Ask the students "What are some things that people need to survive?" ***(Answers:** food, shelter, water, energy)* and make a list of these things people need on a large sheet of paper so you can refer to it again later in the activity. If the students name things that aren't necessities, write these items on a list of things people might want.

4. Explain that the things people need must be close to where they live (just like many of the things they want). Then, ask the students to describe the community where they live. (This can be done as a visualization activity or as a shared discussion.) Keep a list of the things they describe for use throughout the rest of the activity. Possible questions to ask include:

   - What are all the places a family might visit during a week to get the things they need or want, or to share time with friends? ***(Possible answers:** gas station, supermarket, pharmacy, a relative's house, place of worship, movie theater)*
   - What kind of shelters do people live in? ***(Possible answers:** apartments, houses, trailers)*
   - From your front door, can you see any other buildings or areas where people live?
   - Where do people go to get food? ***(Possible answers:** markets, restaurants, gardens, farms)*
   - Where do people go to get clothes? ***(Possible answers:** shops, mall, fabric store, thrift store)*
   - Where might kids go to play outdoors? (***Possible answers:** park, backyard, field, empty lot)*

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Habitat—A habitat is the place where an animal or plant naturally lives and grows. It has the food, water and shelter necessary for survival. For an animal to grow well, all the resources it needs for survival need to be in its habitat. People's habitats are the communities where they live.

Shelter—A shelter provides protection from outside forces such as wind, rain, too much sun and other harmful things.

Resource—A resource is a supply or source of support.

Recycle—To recycle something means to use it again for the same or a new purpose.

Materials:

For younger children

- One large sheet of paper from a flipchart pad or roll of recycled newsprint
- Toy cars and trucks
- Dolls or other figurines of people
- Stuffed animals or plastic barnyard animals
- 6–8 stackable plastic containers (these could be rinsed margarine tubs, storage containers or Tupperware™– type containers, etc.) to represent the buildings people live in and visit
- A green rug or piece of fabric to represent grass and farms

For older children

- 5–6 sheets of large craft paper (27" x 34")
- Several markers in different colors
- Tape or thumbtacks
- Optional–A book that examines the features of a community, such as *Busy, Busy Town* by Richard Scarry, (Golden Books Publishing Company, 1994).

- Where does the water people drink come from? (***Possible answers:*** *lakes, river, reservoir, well)*
- Where do parents or other family members work or go to school? ***(Possible answers:*** *offices, home, school or university, store, factories)*
- Could someone living where you live walk safely to places like school, parks, shops and restaurants? Or, do they have to use some other form of transportation: A car? A bus? The subway? The train?

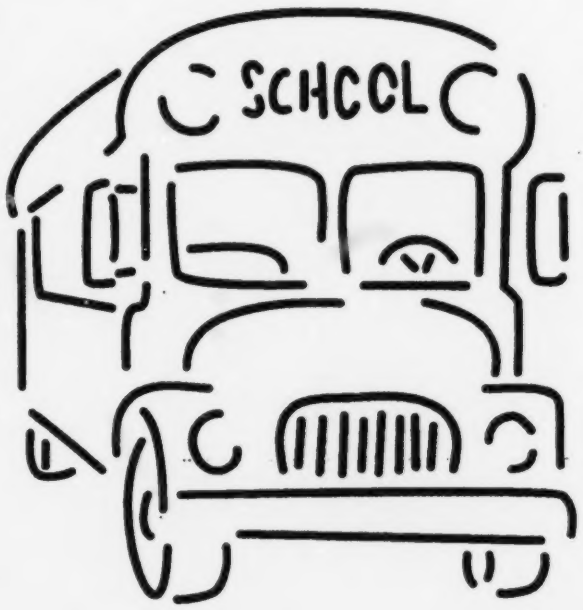
Wrap Up to Part I–*"All of these different places, and the transportation between them, make up people's communities. Many people like some things about the place where they live and dislike other things about where they live. Later we're going to design the kind of community we would like to live in."*

PART II: Creating Communities

"Remember our brainstorm yesterday of all the things we need to have in a community for people to grow well and get along? We made a list of all the things we need and want in a community. Today we are going to design a community where we would like to live."

For Younger Children—

1. Ask the class to gather around the green fabric. Introduce the children to all the elements in this pretend community: animals; buildings where people live and the shops and other places people visit; cars and trucks; green grassy areas; and farmland.
2. Explain that more and more people are moving into this community—can they all fit and leave room for the animals and some green space if all the containers (homes, garages, shops) are spread out? What if the containers were stacked on top of each other—would that provide more space for animals and other living things? Try stacking the containers to accommodate more people, cars, and shops in less space.
3. Discuss some of the good points and bad points about different kinds of communities that your students may have lived in or be familiar with (from television, picture books, videos, etc.), e.g., small towns, suburban areas, cities, rural farmland, wooded areas, etc.



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4. Ask students to draw pictures of the community they would like to live in. Once they have had time to complete this part of the activity, allow them to share it with the class.

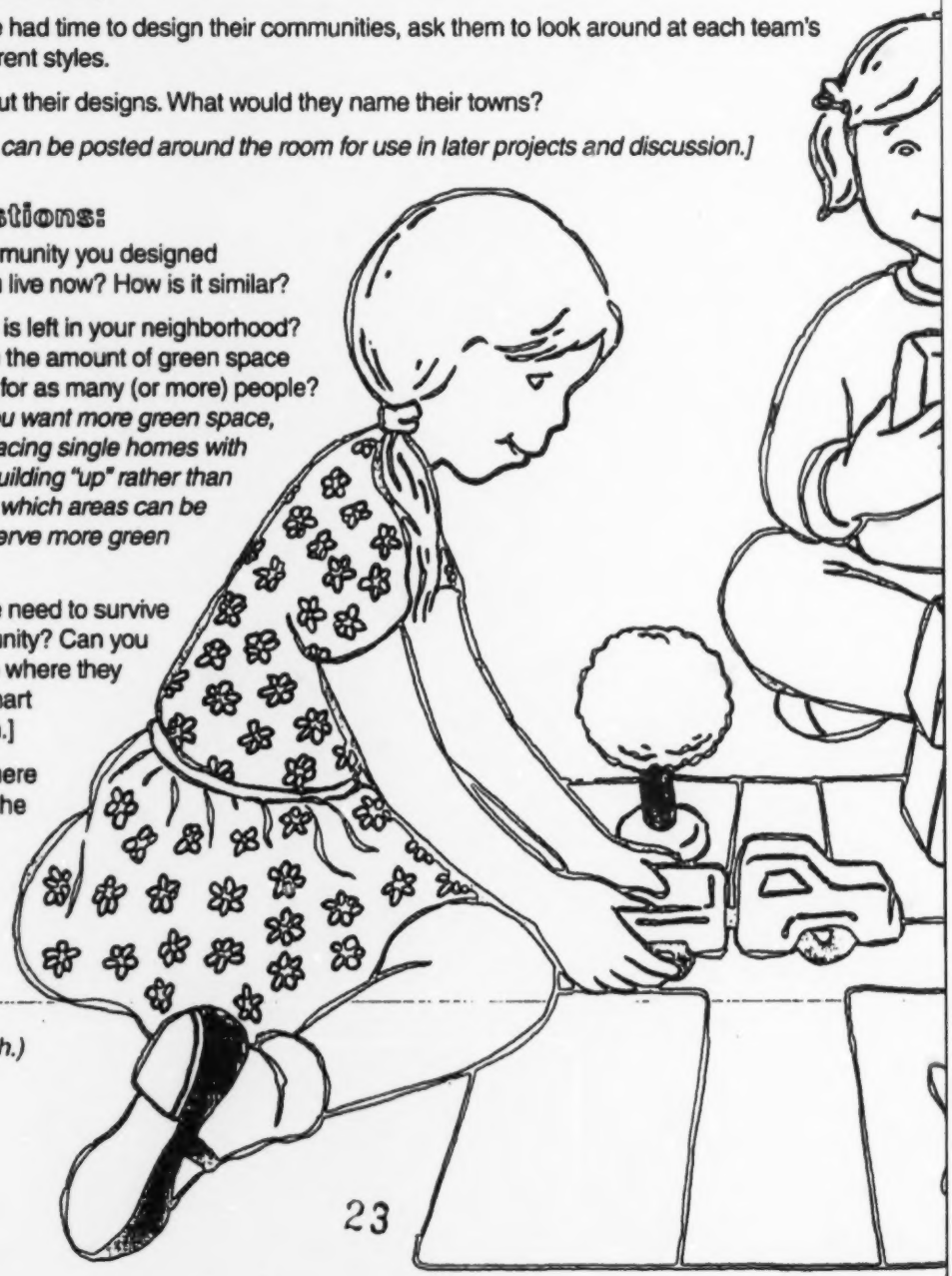
For Older Children—

1. Divide the class into teams of a few students each. Assign each team a table or area of the floor on which to work. Give each team a large sheet of craft paper and several markers.
2. Review the list from the brainstorm with them. Post it so that all can see and refer to it as they design a community on the paper. Explain that each team is in charge of designing a community they would like to live in and that at the least, the community needs to provide the things necessary for human survival: food, water, shelter, energy. Ask them to think also about the other living things (plants, animals) that might share their community—where would they live? Give the teams at least ten minutes to work on their drawings. They may want to role play the characters of mayor, builder, farmer, park ranger, etc. as they determine what to include in their community.
3. Once the students have had time to design their communities, ask them to look around at each team's creation to see the different styles.
4. Ask students to tell about their designs. What would they name their towns?

[The students' creations can be posted around the room for use in later projects and discussion.]

Discussion Questions:

1. In what ways is the community you designed different from where you live now? How is it similar?
2. How much green space is left in your neighborhood? How could you increase the amount of green space while providing housing for as many (or more) people? ***(Possible answer:** If you want more green space, you might consider replacing single homes with apartment buildings – building "up" rather than "out." Or, you could limit which areas can be built on in order to conserve more green space.)*
3. Are all the things people need to survive available in your community? Can you name them and point to where they come from? [Refer to chart made during brainstorm.]
4. What would happen if there weren't any farms, or if the farmer moved away from the area? ***(Possible answer:** Food would have to be shipped from a greater distance, making it more expensive and less fresh.)*



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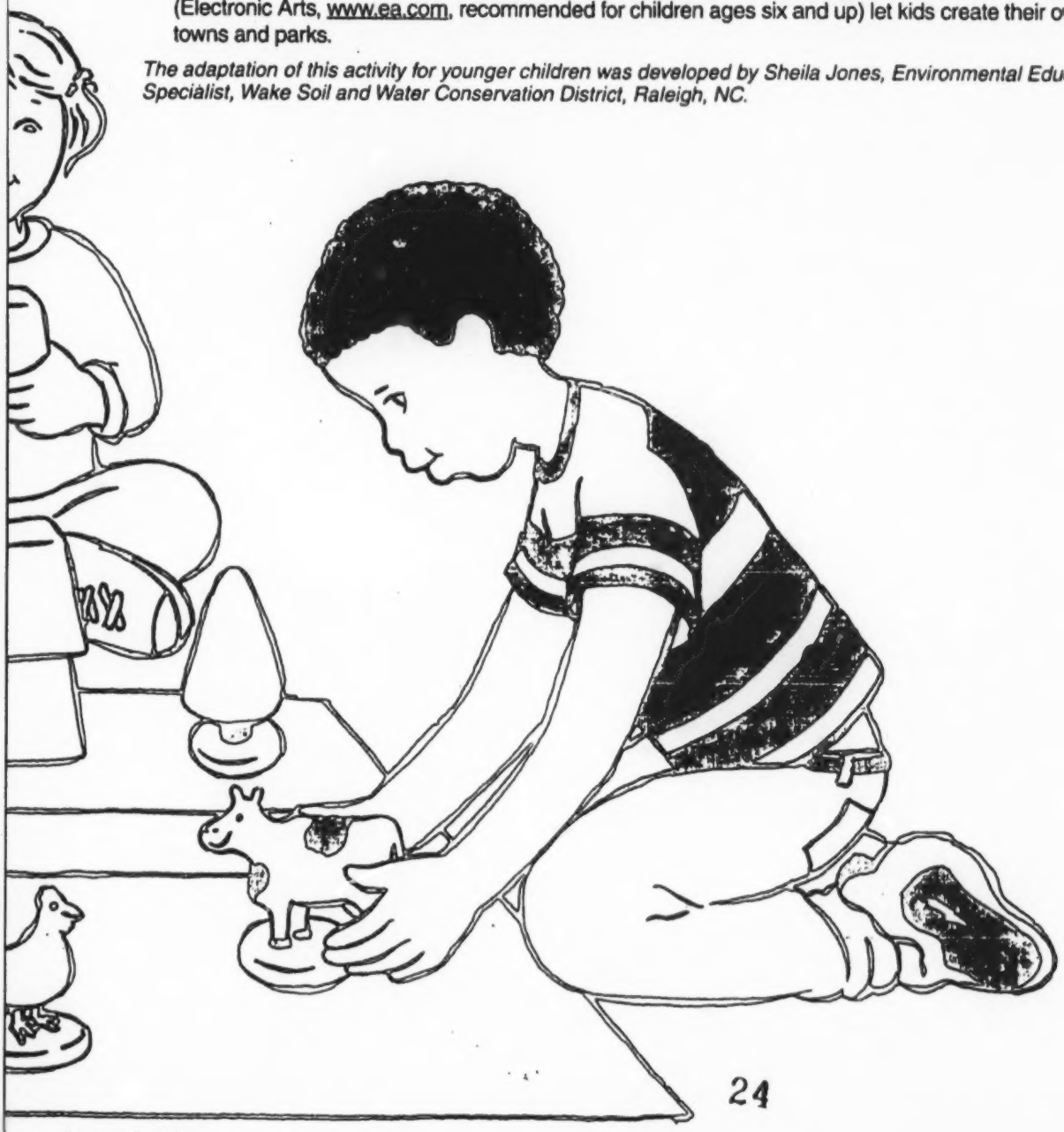
5. What kinds of transportation do people use in your neighborhood? Why might it be good to be able to walk to places? Why might someone want to use another form of transportation?
6. Are there any animals other than pets in your neighborhood? Where do they live?

Exploration and Extension:

1. Habitats can change dramatically as the human and animal populations in them grow. Read a story such as *The Little House* by Virginie Lee Burton, (Houghton Mifflin Company, 1942) aloud to your students or share with them a picture book like *Window* by Jennie Baker, (Greenwillow Books, 1991) and ask them to describe how the area described in the story changed over time.
2. Prepare students to interview older family members about their experiences living in the community and their reflections on how and why they have changed over the years.
3. Share other simulations with your students. For example, the computer games *Sim Town* and *Sim Park* (Electronic Arts, www.ea.com, recommended for children ages six and up) let kids create their own dream towns and parks.

The adaptation of this activity for younger children was developed by Sheila Jones, Environmental Education Specialist, Wake Soil and Water Conservation District, Raleigh, NC.



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Who Polluted the River?

Objectives:

The student will be able to:
- List three ways to prevent and clean up water pollution.

Grade Level:

1–2

Standards:

- English/Language Arts 1
- Geography IV-12; V-14
- Science F
- Social Studies I-d, II-b; III-h, k

Skills:

- Analyzing
- Describing
- Listening
- Understanding cause-and-effect relationships

Duration:

Preparation—30 minutes (once all materials have been collected)

Activity—20 minutes

Materials:

- A clear gallon jar of water
- A plastic film canister for each student, with label taped to it (canisters are often available for free at film processing stores)
- One cut-out image of character in story from those provided for each student
- Optional—Plastic fish toy
- Large strainer or colander
- Canister ingredients (all are safe for students to handle):

Dry Elements
- Trees: Dry, crumbled leaves
- Building site: 1/2 tsp. dry clay soil (not sand)
- Farmer:1/4 tsp. baking soda
- Family picnic: Assorted litter (small shreds of paper, pieces of plastic grocery bags, etc.)
- People fishing: Tangle of fishing line (or dental floss)

Wet Elements
- Barnyard: 1/2 tsp. brown liquid; a few crystals of instant coffee mixed with water or food color mix
- Factory: 1/4 tsp. of diluted red food coloring
- Cars/Drivers: 1/4 tsp. of vegetable oil
- Washing the car: 1/2 canister of soapy water
- Motorboat: 1/4 tsp. vegetable oil

Overview:

In this activity, students participate in an interactive story and learn how, as human populations have increased and land uses have changed, many of our rivers have become polluted. This example demonstrates that just as we each contribute to the problem, we can also each be part of the solution.

Procedure:

1. Prepare and label the film canisters as described in the materials section, enough for each student to have at least one canister.
2. Fill a clear, wide-mouthed gallon container with water nearly to the top. Place it near where you will be reading the story. (If using a fish toy, put it in the water now. As one of the questions that appear throughout the story, point to the fish and ask "How do you think the fish feels?")
3. Distribute one cut-out image to each student.

   [NOTE: Every student should get an image and, later, a canister. Unless your class is very small, this will mean you need multiples of many of the canisters. Just don't have more than one barnyard canister (coffee), as two doses of it will make the water too dark to notice the progression of pollution afterwards.]
4. Set up the labeled canisters within easy reach of where you'll be facilitating the activity, lined up in the order in which they are to go into the water.
5. Explain that you will tell a story about the river, (insert the name of a river in your area, if you wish) and that each of the students will play a part in the story. When they hear the name of the item pictured on the cut-out you've given them, they should come up to you and get the matching canister, open it, and empty its contents into the container, which represents the river.

   [NOTE: If you feel the students will have trouble opening the canisters without spilling the contents, remove the lids for them, or leave the lids off altogether.]
6. Read the story that follows. Pause after questions within the story to give the students time to think and respond. Refer to the discussion questions below after you have read the entire story.
7. After finishing the activity, use the strainer or colander to take the solids out of the water before you dispose of it.

Discussion questions:

1. Who polluted the river? ***(Answer:** everyone played a role)*
2. Think about the pollution contained in your canister. What could each of us do to keep the river clean by making sure these kinds of pollution don't get into it in the first place? ***(Possible answers:** biking or walking instead of driving, using water carefully, picking up litter so it doesn't end up in our fresh water supply)*
3. How could we clean up the water in the jar—after all, everything has to go somewhere? ***(Possible answers:** solids can be strained out, or filters like cotton can be helpful in removing the solids)*
4. Is it is easier to prevent pollution, or to clean it up later?
   [Have the students explain their ideas.]

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Interactive Story: Who Polluted the River?

There was a time many years ago when our land was very wild. This was a time before roads and cars. Only a small number of people lived here then. These native people depended on nature for many of the things they needed to survive, but they lived simply and didn't change the natural surroundings too much. The people hunted in the forests, found food in the swamps, and caught fish in the river. [*Insert the name of a local river.*]

The beautiful and sparkling river was home to fish and other wildlife.

Question: Imagine that the container of water in front of you was taken from the river a long, long time ago. Describe how it looks to you. Would you drink this water? Eat fish that came from it? Swim in it?

Eventually, more people traveled to this land from across the ocean. They found rich soil for farming, forests full of wildlife, and a river that provided plenty of food and water. It was a perfect place to live.

Question: How do you think the new people used the river?
***(Possible answers:** for water to drink, cook with, bathe and wash clothes in; to catch fish from; to go boating on; to move supplies from place to place)*

Question: Do we use the river the same way today? *(Answers will vary)*

The river has changed a lot since that time long ago.
This is the story of those changes.

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Listen for the name of what's pictured on your slip of paper. When you hear your picture named, walk up to the teacher, get the matching container, and dump what's inside into the river.

[NOTE: Be sure to stand to the side, so the whole class can see the bowl.]

Years went by, and once in a while there were big storms. Strong winds whipped through the **TREES** and blew leaves into the water.

More and more people moved to the area. Gradually, a city grew up around the river. People drained swamps and cut down forests to build houses, schools, churches, stores, roads, hospitals and many other buildings. Rains washed loose soil from these **BUILDING SITES** into the river.

Questions: Is this water safe to drink? *[If the response is "no," ask if the river had leaves or soil in it when people long ago drank from it.]* Would you swim in it? Is it safe for animals to drink and fish to swim in?

At first, the city was small. Upstream, **FARMERS** planted crops to feed all the people as the city grew. They used chemicals called fertilizers to make their crops grow faster. Some farmers kept pigs and other animals in **BARNYARDS**. As rainwater drained out of the fields and barnyard, it carried some of the fertilizers and manure into a little creek behind the farm. The creek flows into the river.

Question: Would you drink this water now? Would you swim in it? Go boating on it? Is it safe for fish and animals?

Now, the city along the river has grown to be one of the largest cities in the country. Many people live and work in and around the city. Many businesses provide services for the people. Several **FACTORIES** make things that people want, like cars and furniture, but the factories leak paint and other chemicals into the river. These pollutants cause the fish to become sick.

As people move about in their busy days, they often drive from place to place. Traffic jams are a big problem for **DRIVERS** who take their cars to and from work. If a car is not taken good care of it might also leak oil or other fluids, which will be washed off the roads and into the river with the next rain.

A boy in the city is out **WASHING THE FAMILY CAR**. The soapy water rushes down the driveway into the storm drain by the curb; the storm drain empties into the river. The grease and grime on a car contains tar from the roads, very tiny bits of rubber from the wearing of the tires, and rust. If the boy had gone to a local car wash instead, the water would have been cleaned before it went back into the river or was recycled.

On nice days, many people head down to the river. Some zoom up and down the river in **MOTORBOATS** and don't notice that a little engine oil leaks into the water. The oil will not mix with the river water, but will float on the surface. It will coat the feathers of ducks or other birds that paddle around on the water looking for food, making it harder for them to stay afloat or fly. Lots of people are having **FAMILY PICNICS** in the parks along the river, too. Some of these people have left trash on the shore. With the next storm, that trash will wash into the river. On the shore a **PERSON FISHING** snags a hook on a log. Instead of untangling it, the person fishing simply breaks off the snagged piece of the nylon fishing line and lets it fall into the river.

The land is no longer wild, and the river has changed a lot over the years.

This activity was originally developed by Hard Bargain Farm Environmental Center, Accokeek, MD.

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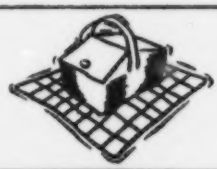
Canister Labels

Trees

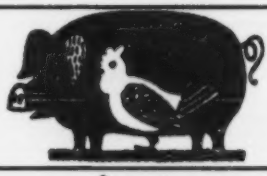
Building Sites

Farmers

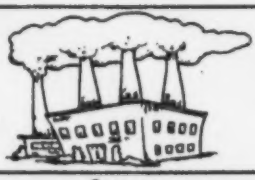
Person Fishing



Family Picnics



Barnyards



Factories

Drivers

Washing the Family Car

Motorboats

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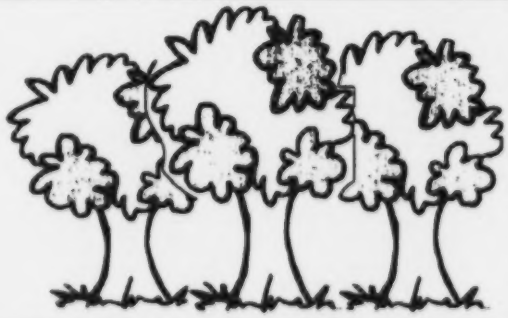
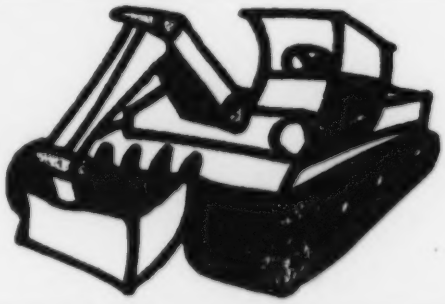
Character Nametags

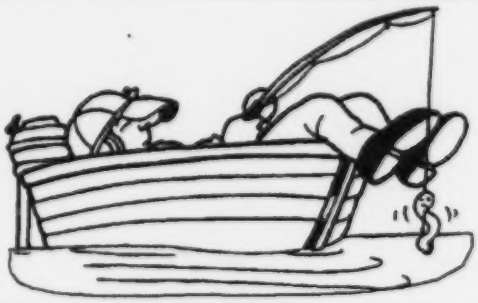


Trees

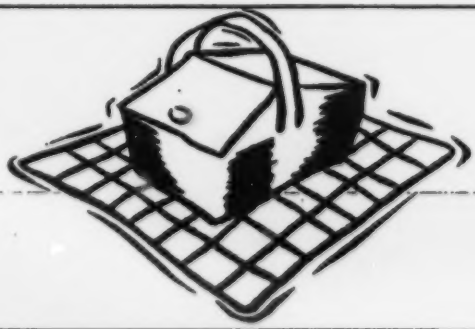


Building Sites

Farmers



Person Fishing



Family Picnics

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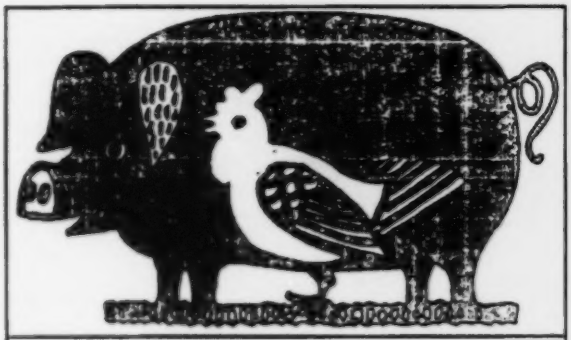
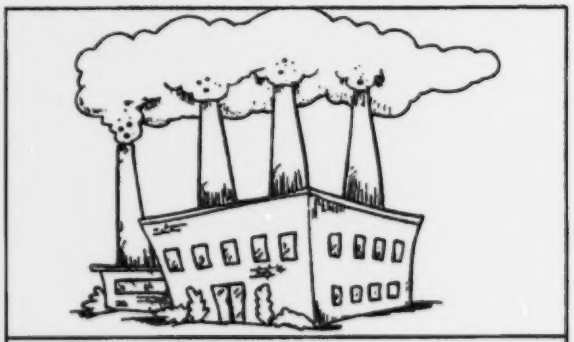
Character Nametags



Barnyards



Factories

Drivers

Washing the Family Car

Motorboats

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The Bare Necessities

Objectives:

The student will be able to:

- Make two comparisons between his or her life and the life of a fictional child living in a jungle.
- Identify two fun pastimes that do not require batteries or electricity.

Grade Level:

Pre-K–2

Standards:

- Geography V-14, 15
- Social Studies I-d, III-h, k; IX- e

Skills:

- English/Language Arts
- Imagining
- Drawing
- Listening
- Making comparisons

Duration:

Preparation—none

Activity—30–60 minutes

Materials:

- Sketch paper and markers for each student
- Optional – *The Jungle Book* by Rudyard Kipling
- Optional – Disney's *The Jungle Book* film (available for rent at most video stores

Overview:

Conserving limited natural resources will rely on cooperation from all the world's people. Many important and enjoyable aspects of life do not require the depletion of resources. In this activity, students compare their resource use and means of entertainment with that of a child living in the jungle. They identify the "bare necessity" that is important to them and each draw a picture of it to share with the class.

Procedure:

1. Introduce your students to the story of Baloo and Mowgli from *The Jungle Book*. [You can read a short passage from the book, share some of the lyrics from the song "The Bare Necessities," show a clip from the film, or simply paraphrase the description that follows. If you want to show a clip from the film, "The Bare Necessities" sequence is about 25 minutes into the movie.]

   When discussing the "bare" (simple) necessities, it will be important to distinguish between the words "bare" and "bear"—after all, one of the characters in the story is a bear, and children could easily become confused. You will want to stress that the "bare" necessities are those simple things on which humans and other animals (not just bears) can survive.

   A summary of the story of Mowgli and Baloo

   Mowgli is a young orphan boy raised by wolves in the jungle. Mowgli's animal friends try to decide what is best for Mowgli—whether to take him to a nearby village where other people live, or allow him to stay in the jungle with them. Baloo, a bear, wants Mowgli to stay in the jungle and shows him how to survive on the "bare necessities" of life that can be found in nature. Baloo shows Mowgli how to eat and drink and make use of what he can find in the jungle: bananas, honey, coconuts, pawpaws and other fruits, water from the river, trees, and rocks.

   He sings to Mowgli:

   A passage from "The Bare Necessities"

   "Look for the bare necessities
   The simple bare necessities
   Forget about your worries and your strife
   I mean the bare necessities
   Old Mother Nature's recipes
   That bring the bare necessities of life
   . . . When you find out you can live without it
   And go along not thinkin' about it
   I'll tell you something true
   The bare necessities of life will come to you."

   (Gilkyson, Terry. "The Bare Necessities," from The Jungle Book. *The Walt Disney Company, 1967.)*

2. Ask your students to name some of the bare necessities that Baloo and Mowgli found in the jungle and make a list of these. ***(Possible answers:*** *water; food—fruit, honey, bugs!; shelter; materials for clothing; friends; entertainment—observing other creatures; swimming in the river; climbing trees; hiking).* Point out that where Baloo and Mowgli live in the jungle, there isn't any electricity, and no stores from which to buy things.

3. Help the students brainstorm a list of the bare necessities in their own lives:

   - What are some fun things to play with that don't come from a store? ***(Possible answers:*** *things found at home, homemade toys, trees, open fields, old clothes for dress-up)*

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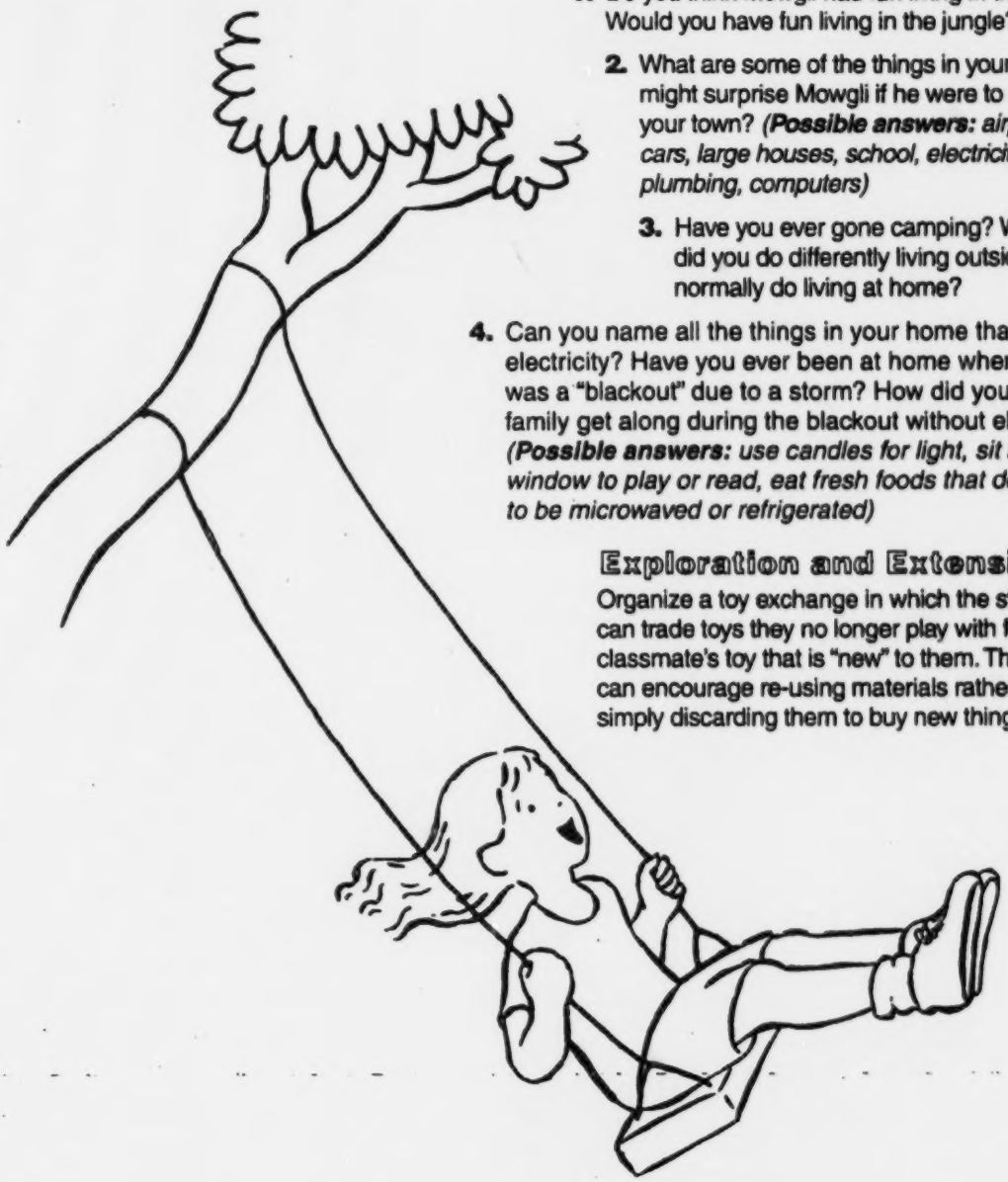
- Do you have any favorite toys that don't require batteries or electricity?
- Do you have any toys that used to belong to your parents when they were kids? If so, are they different from your other toys?
- What are some things that are most important to you that don't require electricity? ***(Possible answers:*** *family, friends, pets, simple toys)*

4. Ask the children to draw a picture of one of their "bare necessities."
5. Compile the drawings into one large poster or book entitled "Our Bare Necessities" and display it in the classroom.

Discussion Questions:

1. Do you think Mowgli had fun living in the jungle? Would you have fun living in the jungle?
2. What are some of the things in your life that might surprise Mowgli if he were to move to your town? ***(Possible answers:*** *airplanes, cars, large houses, school, electricity, indoor plumbing, computers)*
3. Have you ever gone camping? What things did you do differently living outside than you normally do living at home?
4. Can you name all the things in your home that use electricity? Have you ever been at home when there was a "blackout" due to a storm? How did you and your family get along during the blackout without electricity? ***(Possible answers:*** *use candles for light, sit by a window to play or read, eat fresh foods that don't need to be microwaved or refrigerated)*



Exploration and Extension:

Organize a toy exchange in which the students can trade toys they no longer play with for another classmate's toy that is "new" to them. This activity can encourage re-using materials rather than simply discarding them to buy new things.

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Lend a Hand to the Earth

Objectives:

The student will be able to:
- Identify one positive action that he/she can take to protect the environment.
- Contemplate the cumulative affect of individual actions.

Grade Level:

Pre-K–2

Standards:

- Geography V-14
- Science C, F
- Social Studies VI-a, X-d

Skills:

- Problem Solving
- Creating
- Brainstorming
- Drawing
- Decision making
- Defining problems

Duration:

Preparation—minimal

Activity—30–60 minutes

Materials:

- Construction paper, assorted colors, or finger paints
- Markers in assorted colors
- Poster-size craft paper

Overview:

As the next generation of leaders, parents and voters, children should feel empowered to take positive action to protect the environment. In this activity they will create a "handprint" that contains a description of one way they can help the Earth. The class's handprints will be displayed together, showing a collective commitment to protecting the environment and representing the cumulative affect of individual actions. This activity offers an excellent summary of the key points raised in the other activities in *Sharing a Small World.*

Procedure:

1. Ask the children to each think of one positive action they could take to protect the environment and why it is important. It may be helpful to review the *Introductory Narrative* and some of the key points raised in the other activities in *Sharing a Small World* to spark their creativity on this theme. If it helps, brainstorm with the students to generate a list of ideas from which each child can choose an action. Be sure to discuss *why* each action is important. An example of a positive action pledge is "I will write or draw on both sides of a piece of paper." This action is important because re-using paper means we need less new paper. New paper comes from trees that have been cut down and may be dyed or treated with chemicals that are harmful to humans and the environment. Trees produce oxygen and provide shade, so it is important to limit our paper consumption as much as possible.

Other suggestions of positive action pledges:

- I will help my parents find and repair leaky water faucets and pipes at home.
- I will turn off lights, televisions and radios when no one is using them.
- I will not leave the refrigerator door open, since that would waste electricity and cause the food to spoil.
- I will put my litter in a trashcan or recycling bin so animals are not harmed by it.
- I will not let the water run while I'm brushing my teeth; I'll use a glass instead.
- I'll help with the dishes and encourage my family not to use paper plates and cups.

2. Help each student trace his/her handprint on construction paper and cut it out. (If using fingerpaints instead, help each child make a handprint on the outer edge of the large sheet of paper—forming a border.)
3. Help each child write his/her action on his/her handprint.
4. Arrange the handprints on the large paper and glue them down. Include a drawing of the Earth in the middle of the banner, with the phrase "We All Can Lend a Hand to the Earth".
5. Display the poster in your classroom or school.

Discussion Questions:

1. Ask the children to describe their action and its implementation. They might point to their handprint on the banner while doing so. Is their action something they can do every day or just once in a while? Will they need an adult's help to complete their action?

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2. Discuss each action and its positive impact on the Earth.

3. What are some things the class can do together to protect the environment? ***(Possible answers:** Be sure lights are turned off when no one is in the room, use recycled paper and re-use paper and other materials creatively, conserve water)*

Exploration and Extension:

Share one or both of the following thought-provoking books with your class:

1. *If Everybody Did* by Jo Ann Stover (BJU Press, 1989). This very funny book uses lively illustrations to demonstrate the cumulative affects of individual, everyday actions. Use this book as a springboard for discussing questions like:

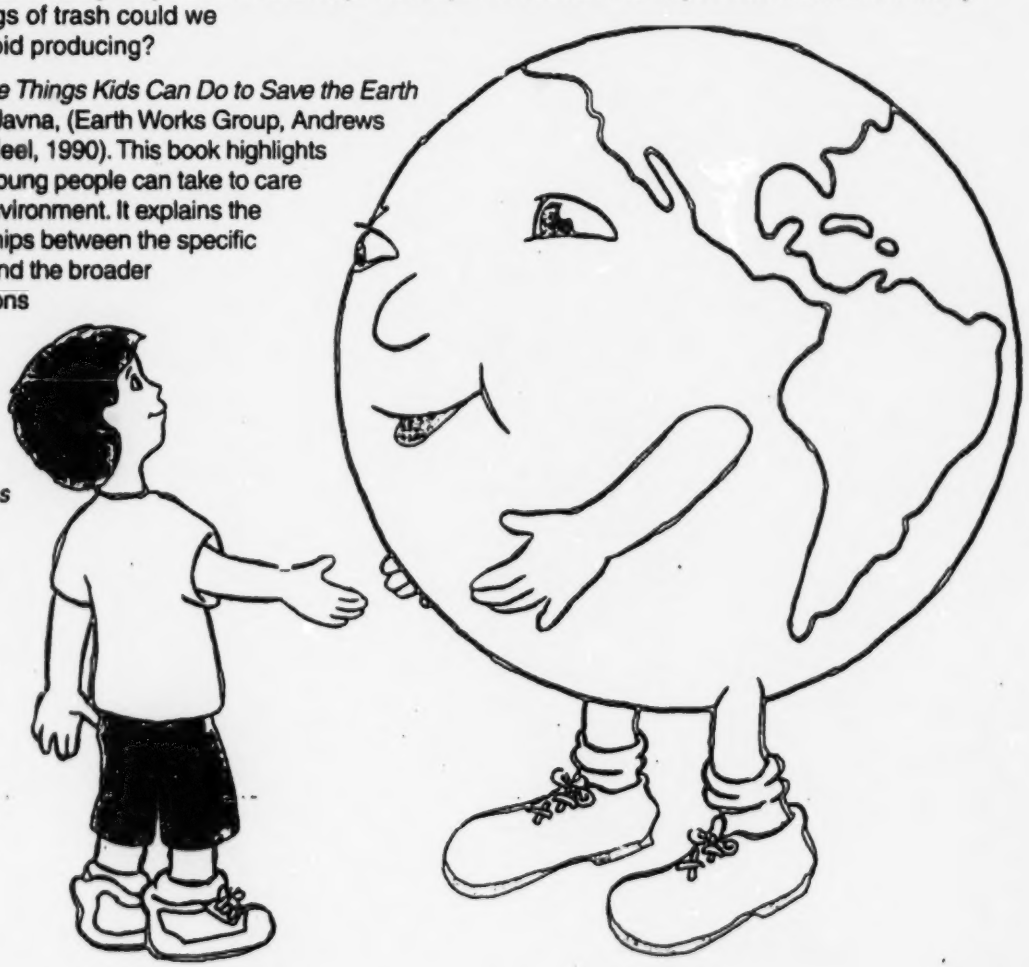
    - What if everybody left the water running (or even dripping) in the sink?
    - What if everybody left the lights on?
    - What if everybody threw trash on the ground?

If everybody did these things we would pollute our environment and exhaust our resources even more quickly. Pose the opposite kinds of questions to emphasize positive behaviors:

    - What if everybody recycled their newspaper or read a copy at the library—how many trees could be saved?
    - What if everybody washed their clothes only when they had a full load—how much water could be saved?
    - What if everybody used re-usable plates at parties instead of disposable ones—how many bags of trash could we avoid producing?

2. *50 Simple Things Kids Can Do to Save the Earth* by John Javna, (Earth Works Group, Andrews and McMeel, 1990). This book highlights actions young people can take to care for the environment. It explains the relationships between the specific actions and the broader connections among living things.

The idea for this activity comes from Judy Simpson, Elon, NC.



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Meeting the National Standards with Sharing a Small World

ENGLISH LANGUAGE ARTS (All Levels)

International Reading Association and National Council of Teachers of English, 1996
IRA, P.O. Box 8139, Newark, DE 18714-8139
NCTE, 1111 W. Kenyon Rd., Urbana, IL 61801-1096

Standard 1:

Students read a wide range of print and non-print texts to build an understanding of texts, of themselves, and of the cultures of the United States and the world; to acquire new information; to respond to the needs and demands of society and the workplace; and for personal fulfillment. Among these texts are fiction and non-fiction, classic, and contemporary works.

GEOGRAPHY (All Levels)

National Council for Geographic Education, 1994
Geography Standards Project
1600 M Street, NW, Washington, DC 20036

II. Places and Regions

4. Know and understand the physical and human characteristics of place.

III. Physical Systems

8. Know and understand the characteristics and spatial distribution of ecosystems and Earth's surface.

IV. Human Systems

12. Know and understand the processes, patterns, and functions of human settlements.

V. Environment and Society

14. Know and understand how human actions modify the physical environment.
15. Know and understand how physical systems affect human systems.
16. Know and understand the changes that occur in the meaning, use, distribution, and importance of resources.

MATHEMATICS (Grades Pre-K-2)

National Council of Teachers of Mathematics, 2000
1906 Association Dr., Reston, VA 20191-9988

I. Numbers and Operations

- Understand numbers, ways of representing numbers, relationships among numbers, and number systems.
- Understand meanings of operations and how they relate to one another.
- Compute fluently and make reasonable estimates.

IV. Problem Solving

- Build new mathematical knowledge through problem solving.
- Solve problems that arise in mathematics and other contexts.
- Use mathematics in other curriculum areas.

SCIENCE (Grades K-4)

National Science Education Standards of the National Research Council, 1996
2101 Constitution Ave., NW
Washington, DC 20418

Content Standard C: Life Science

I. Organisms and environments

Content Standard F: Science in Personal and Social Perspectives

I. Characteristics and changes in populations
II. Types of resources
III. Changes in environments
IV. Science and technology in local challenges

SOCIAL STUDIES (Grades K-4)

National Council for the Social Studies, 1995
3501 Newark St., N.W.
Washington, DC 20016

I. Culture

d. Compare ways in which people from different cultures think about and deal with their physical environment and social conditions.

II. Time, Continuity, and Change

b. Demonstrate an ability to use correctly vocabulary associated with time such as past, present, future, and long ago; read and construct simple time lines; identify examples of change; and recognize examples of cause-and-effect relationships.

III. People, Places, and Environments

h. Examine the interaction of human beings and their physical environment, the use of land, building of cities, and ecosystem changes in selected locales and regions.
k. Consider existing uses and propose and evaluate alternative uses of resources and land in home, school, community, the region, and beyond.

V. Individuals, Groups, and Institutions

e. Show how groups and institutions work to meet individual needs and promote the common good, and identify examples of where they fail to do so.

VI. Power, Authority, and Governance

a. Examine the rights and responsibilities of the individual in relation to his or her social group, such as family, peer group, and school class.

IX. Global Connections

b. Give examples of conflict, cooperation, and interdependence among individuals, groups, and nations.
d. Explore causes, consequences, and possible solutions to persistent, contemporary and emerging global issues, such as pollution and endangered species.
e. Examine the relationship between personal wants and needs and various global concerns, such as use of imported oil, land use, and environmental protection.

X. Civic Ideals and Practices

d. Identify and practice selected forms of civic discussion and participation consistent with the ideals of citizens in a democratic republic.

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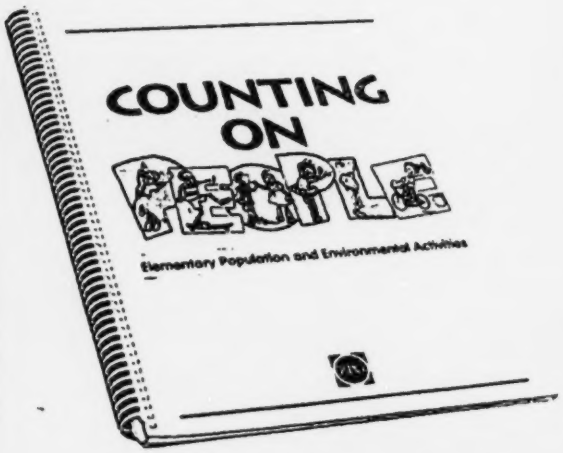
Sing ditties from Pete Seeger and Sesame Street!



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